



Fluorine-free water repellency with ECOPERL

Ecological and functional finish

bluesign®
APPROVED

CHT
SMART CHEMISTRY
WITH CHARACTER.



Ecology and functionality

Fluorocarbon-free (PFC-free) hydrophobic treatment of textiles is a key issue not only in the field of outdoor and sportswear articles, but also for stain-repellent apparel and home textiles. The focus of the end consumer is no longer only functionality, but also environmental compatibility.

Many brands and retailers have the objective to replace PFCs by more sustainable, fluorine-free alternatives by 2020.

The CHT Group offers highly effective, fluorine-free products for the production of water- and stain-repellent textiles. Innovative products for these effects are available under the name **ECOPERL**.



Ecological advantages at a glance

ECOPERL products are:

- ✓ **Fluorocarbon-free**
- ✓ **APEO-free**
- ✓ **Formaldehyde-free**
- ✓ **Bioeliminable >95 %**

ECOPERL products are bluesign® approved, ZDHC Gateway listed, suitable for reaching OEKO-TEX® STANDARD 100 and GOTS.

BeSoDRY toolbox

All **ECOPERL** products are excellently suited for finishing textiles made of synthetic and natural fibres and their blends. Manifold applications are covered in the fields of apparel, outdoor and sports textiles as well as home textiles.

The **ECOPERL** products lead to the effect **BeSoDRY**.

ECOPERL 4

- Excellent water repellency
- Very good aqueous stain repellency
- Very good wash durability
- High abrasion resistance
- Neutral handle
- Perfect for outdoor textiles

ECOPERL ACTIVE

- Very good water repellency
- Good wash durability
- Good cost effectiveness
- Perfect for cotton and cotton blends in combination with TUBICOAT FIX H26

ECOPERL HC

- Good aqueous stain repellency
- Good wash durability
- Excellent resistance to dry cleaning
- Perfect for apparel and home textiles

ECOPERL BOOST

- Crosslinking polymer
- Boosts the durability to washing
- Best performance on PES

TUBICOAT FIX H26

- Isocyanate fixing agent
- Improves the durability to washing
- Best performance on CO



Test methods and results

Test methods

Water and stain repellency tests can be carried out by using diverse test methods:

- Spray test (AATCC 22 / ISO 4920)
- Aqueous liquid repellency – water/alcohol resistance (AATCC193 / ISO 23232)
- Bundesmann rain test (ISO 9865)
- Stain tests according to different standards and customer's request

Recipe recommendation

The application technology mainly depends on the textile, the desired effect and the machinery.

Basic recipe pad application

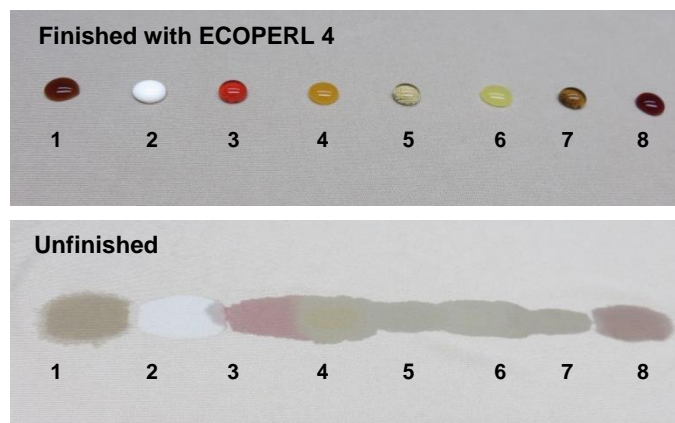
40 - 100	g/l	ECOPERL 4
0.5 – 1.0	g/l	KOLLASOL CDO
		optional
5 - 40	g/l	ECOPERL BOOST on PES
5 - 20	g/l	TUBICOAT FIX H26 on CO

Liquor pH: 5 – 6
 Liquor pick-up: 40 – 80 %
 Dry / Fix: 100 °C / 130 – 170 °C

In order to achieve the best possible performance, the CHT Group offers technical service for individual recipe and application recommendations as well as support on site.

Best performance

Aqueous stain repellency on 100% PES

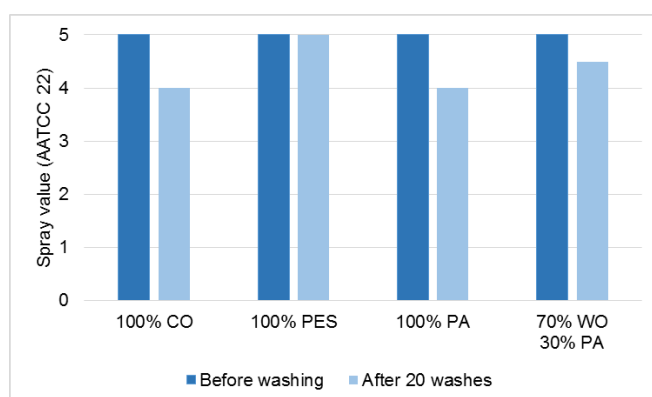


- 1 Hot coffee
- 2 Milk
- 3 Cool Aid Drink
- 4 Multi-vitamin juice

- 5 Apple juice
- 6 Orange juice
- 7 Coca Cola®
- 8 Red wine

Excellent durability to washing

ECOPERL products show a very good durability to washing on synthetics, native fibres and blends. The full hydrophobic effect is obtained by drying in the tumbler or ironing after the washing process.





ECOPERL Overview

		ECOPERL 4	ECOPERL ACTIVE	ECOPERL HC
Chemical character	Wax	√	√	-
	Polymer	√	√	-
	Amino silicone	-	-	√
Water & stain repellent effect	Initial	+++	+++	++
	Home laundry	+++	+	++
	Dry cleaning	+	-	++
Application*	Padding	√	√	√
	Spraying	√	-	-
	Drum washer	√	√	√
	Yarn	√	-	-
Suitable for subsequent*	Hotmelt lamination	√	√	-
	Solvent coating	√	-	-
	Water based coating	√	-	-

*Our Technical Service will be pleased to work out specific procedure proposals.